

USAWC STRATEGY RESEARCH PROJECT

**RECONSTRUCTION UNDER ADVERSITY
REBUILDING IRAQ - LESSONS FOR THE FUTURE**

by

Lieutenant Colonel Steven R. Miles, P.E.
United States Army

Colonel Eric Ashworth
Project Adviser

This SRP is submitted in partial fulfillment of the requirements of the Master of Strategic Studies Degree. The U.S. Army War College is accredited by the Commission on Higher Education of the Middle States Association of Colleges and Schools, 3624 Market Street, Philadelphia, PA 19104, (215) 662-5606. The Commission on Higher Education is an institutional accrediting agency recognized by the U.S. Secretary of Education and the Council for Higher Education Accreditation.

The views expressed in this student academic research paper are those of the author and do not reflect the official policy or position of the Department of the Army, Department of Defense, or the U.S. Government.

U.S. Army War College
CARLISLE BARRACKS, PENNSYLVANIA 17013

Report Documentation Page			Form Approved OMB No. 0704-0188		
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE 30 MAR 2007		2. REPORT TYPE Strategy Research Project		3. DATES COVERED 00-00-2006 to 00-00-2007	
4. TITLE AND SUBTITLE Reconstruction Under Adversity, Rebuilding Iraq Lessons for the Future			5a. CONTRACT NUMBER		
			5b. GRANT NUMBER		
			5c. PROGRAM ELEMENT NUMBER		
6. AUTHOR(S) Steven Miles			5d. PROJECT NUMBER		
			5e. TASK NUMBER		
			5f. WORK UNIT NUMBER		
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Army War College, Carlisle Barracks, Carlisle, PA, 17013-5050			8. PERFORMING ORGANIZATION REPORT NUMBER		
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)			10. SPONSOR/MONITOR'S ACRONYM(S)		
			11. SPONSOR/MONITOR'S REPORT NUMBER(S)		
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT See attached.					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 27	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

ABSTRACT

AUTHOR: Lieutenant Colonel Steven R. Miles, P.E.
TITLE: Reconstruction Under Adversity, Rebuilding Iraq – Lessons for the Future
FORMAT: Strategy Research Project
DATE: 15 March 2007 WORD COUNT: 8,702 PAGES: 23
KEY TERMS: Infrastructure, Post-Conflict Operations, Contract Construction
CLASSIFICATION: Unclassified

In Iraq, the infrastructure reconstruction remains the lynchpin component to building long-term Iraqi stability and progress. To that end, the United States pledged over 20 billion dollars to improve basic essential services and rebuild Iraq's dilapidated infrastructure (oil, water, electricity, sewer, health, education, etc). The unexpected strength and success of the insurgency derailed many of the post-conflict objectives creating a strategy dilemma. Which comes first, security or reconstruction? Reconstruction is pivotal to winning the hearts and minds of the local people. However, infrastructure reconstruction requires a sustained permissive environment in order for non-combatant local contractors to execute the re-building effort. The traditional linear sequential approach of reconstruction after hostilities appears to be a luxury of the past. This "new kind of war" demands a new approach. This study examines eight critical lessons that the United States should implement to improve our ability to conduct successful reconstruction operations in the future.

RECONSTRUCTION UNDER ADVERSITY RE-BUILDING IRAQ - LESSONS FOR THE FUTURE

If you concentrate exclusively on victory, with no thought for the after effect, you may be too exhausted to profit by the peace, while it is almost certain that the peace will be a bad one, containing the germs of another war.

—B.H. Liddell Hart

The insurgency in Iraq is now in its fourth year. To date the United States has spent over twenty billions dollars on infrastructure efforts while the dissatisfaction in the Iraqi people seems to be increasing. Iraqis are questioning whether the invasion of 2003 was worth the violence that exists today.

Some of the current unrest is fueled by unfulfilled expectations by ordinary Iraqis that the United States would quickly fix Iraq. One key area that suffers the effects of this unrest is the progress of rebuilding Iraq's infrastructure after the fall of Saddam Hussein's regime. This critical Phase IV task of Infrastructure Restoration has been plagued by inadequate pre-war planning and an ill-defined unity of effort and purpose.

As an Area Engineer in western Iraq supporting the United States Marine Corps, I witnessed first hand the debilitating effects of the insurgency on our reconstruction efforts. It is my intent to use my experience and research to provide a bottom-up review of the major reasons the reconstruction of Iraqi infrastructure has fallen short of its intended purpose to win the hearts and minds of the Iraqi people. I will also outline eight key lessons learned that the United States should implement to improve our ability to conduct successful reconstruction operations in the future. The key lessons in this paper focus on strategic command and control, unity of effort, program pace and scope, security, local dynamics, cultural dynamics, outsourcing, and fixing our federal contracting rules. Only if phase IV operations are as successful as combat operations, will the peace be a "good one."

Background and Current Situation

Rebuilding Iraq is a critical national security challenge. For nearly four years, the United States has struggled to develop a strategic framework that lays the foundation for a lasting and long-term national reconstruction. The strength and success of the insurgency has frustrated many of the post-conflict objectives creating a strategy dilemma; which comes first, security or reconstruction? Our National Security Strategy (NSS) emphasizes that post-conflict stabilization and reconstruction "will last only if follow-on efforts to restore order and rebuild are successful."¹ The NSS further articulates that our success will depend on the unified action led

by the Department of State that integrates all national, non-national and coalition agencies, including the military efforts. The question lingers, who is effectively leading and executing the nation's business of reconstruction on the ground in Iraq today - Department of State or the Department of Defense? I would argue that the conditions on the ground are redefining and expanding the military's role in Post-Conflict Stabilization and Reconstruction.

Paramount to conflict termination is developing an early national plan that establishes realistic objectives and more importantly establishes a clear unity of command and effort.² The reluctance of civilian and military leaders to make this planning investment has had profound impacts on national security and shaping a successful conclusion to the war in Iraq. This short sightedness and resistance to consider nation-building as a part of the war itself has induced a national crisis. It is central to any effective reconstruction strategy in future wars and has profound implications for the military's planning, command arrangements and implementation of stability and reconstruction operations.³

Security and stability drive reconstruction operations. Regional security that enables freedom of movement and safe passage is essential in this phase of the war because many of the tasks are conducted by non-combatants rebuilding the infrastructure and government. The security situation in Iraq has significantly increased the cost and schedule of reconstruction efforts. United States military leaders in Iraq must play a greater role in these non-kinetic functions of reconstruction and lately have assumed a greater ownership in these nation-building tasks. Freedom of movement is a key and essential requirement for infrastructure rebuilding to occur. Insurgents have asymmetrically attacked the coalition's efforts to rebuild the local and national infrastructure.

Infrastructure rebuilding drives reconstruction operations. Rebuilding Iraq's infrastructure is the underlying foundation to winning the hearts and minds of Iraq's next generation of leaders, the children of today. We must get this right. Failure is not an option. The reconstruction must raise their standard of living and provide hope that a representative government will provide services and security. Like the children of Europe after the Allies defeated Hitler, the Iraqi children are watching how the Coalition Forces help this new Government of Iraq stand-up and prepare for the future. The infrastructure is one of the most visible reminders of how we are doing and will leave a lasting impression on generations to come as seen in the following photos.



Figure 1. The left photo shows Iraqi boy in Sadr city getting fresh water from new well. The right photo shows the author in Fallujah with Iraqi children, the future of this country.

Planning and executing this enormous feat needs a more decentralized approach to better deflect the effects of the insurgency and provide what the Iraqis ultimately need. Key to rebuilding the infrastructure is: retooling the bureaucracy, targeted contracting, local engagement and competent engineer oversight that is closely coordinated with the local Iraqi leaders. This paper serves as a bottom-up strategic review that outlines lessons for the future for conducting successful reconstruction operations and ensuring that the peace is a “good one.”

Lesson Number One: Assembling the “Right” National Team is Paramount

The current operation in Iraq is the most complex and challenging infrastructure reconstruction operation undertaken by the United States of America since the post- World War II occupation of Germany and Japan.⁴ Even so, the World War II Marshall Plan took nearly two years to develop to ensure its success. Considering all the daunting circumstances that the coalition has faced since the 2003 invasion of Iraq, the rebuilding has accomplished much despite great adversity and cost. Several questions remain. Did we properly organize our national team? Did we have all the tools and authority to be successful? And did we launch the “right” program at the “right” pace? The focus of this lesson is to understand how important it is to design and assemble the most capable team that has the capacity and competence to execute under fire.

The critical decision making environment during the Coalition Provisional Authority (CPA) tenure, concerning the multi-billion dollar infrastructure program, is analogous to a naval aircraft carrier cruising out at sea. Once the carrier (billion dollar infrastructure program) was set in its course, it has proven extremely difficult to change direction and speed. This is the nature of construction, a clear distinction from other procurement activities across a Theater of War. The

planning for post conflict infrastructure must take place concurrently with combat operations planning and be considered of equal importance in order for both to be successful.

History suggests that leadership of reconstruction over post war infrastructure should be run through Department of Defense (DoD) military engineer channels and that the military should be the executive agent for the implementation⁵. During the early days of the Office of Reconstruction and Humanitarian Assistance (ORHA) and CPA, there was slow progress starting the program. This occurred in large part because senior defense officials preferred to outsource this planning function to ad-hoc staffs and private industry rather than energizing and committing the Nation's organic federal engineering construction agencies within the Army, Navy and Air Force. This strategic error is a fundamental lesson to be avoided in the future.

Early commitment of the federal engineers, both military and civilian, is paramount to aggressively managing and orchestrating the evolving reconstruction efforts. Our National leaders incurred tremendous strategic risk by primarily outsourcing the reconstruction management effort in order to conserve troop strength or "boots on the ground" for what was initially assumed to be an easy task. These non-DoD entities, consisting primarily of private industry engineering firms from the United States, could not adapt to the escalating violence and quickly confined themselves to the safety of coalition bases, rarely venturing out. Unfortunately, this is not a new lesson. After World War II, our nation learned that strong military leadership and a policy focused on managing technical infrastructure priorities while maintaining a military reconstruction unity of command over a long period of time was fundamental to the successful rebuilding of Germany and Japan.⁶ This unity has yet to be fully achieved in Iraq. The establishment of the Gulf Region Division (GRD) of the U.S. Army Corps of Engineers was a significant effort in the right direction. However, there still remains a fragmented, bureaucratic approach between the Department of State and the Department of Defense that erodes unity of effort and purpose.

Assembling the right team takes a technical appreciation and willingness to make a long term upfront investment. It was unnecessary to create the many multi-tiered, redundant, ad-hoc construction management organizations within Department of Defense and Department of State that provided support to the ORHA which later morphed into the Iraq Reconstruction Management Office (IRMO) and the Project and Contracting Office (PCO). Neither the Department of State nor the United States Agency for International Development (USAID) possessed the organic engineer or construction expertise needed to manage or direct a reconstruction program of the magnitude Iraq's became. As previously mentioned, due to the expedient nature of the task, ORHA's and later IRMO's ad-hoc structure was staffed primarily by

temporary contractor personnel with varying degrees of leadership experience and technical background. Also, in the early days of the infrastructure reconstruction, Office of Reconstruction and Humanitarian Assistance (ORHA) and PCO lacked basic guidelines and adequate construction contract oversight and procedures to properly monitor large, lucrative cost-plus, design build contracts. As the Special Inspector General for Iraq Reconstruction (SIGR), Mr. Stuart Bowen concluded, “U.S. led reconstruction of Iraq was hampered by the lack of qualified personnel based in the country, insufficient staffing within procurement offices and heavy rotation of personnel.”⁷ For the first 18 months of reconstruction, this ad-hoc Department of State agency hired contractor personnel to supervise contractors on behalf of the U.S. Government. This conflict of interest is only amplified in wartime.

The U.S. Government must better analyze the strategic risks when outsourcing the program and project management in a Theater of War. National leaders incorrectly assumed a permissive, secure environment after removing the Saddam Hussein regime and didn’t have a backup plan when that assumption proved incorrect. Our national agencies of DoD and DoS cannot relinquish their responsibility to provide competent on-the-ground government management and technical oversight in an effort to be more efficient and business-like. The argument that the Phase IV infrastructure reconstruction management can be outsourced to four or five large engineering firms with minimal government oversight is a seriously flawed concept in war and became a major setback to securing the peace. This is a painful lesson for the future, “pay now or pay later” and paying later is always at a greater cost in blood and treasure. During Mr. Bowen’s testimony to the House of Representatives International Relations Committee, the Special Inspector General for Iraq Reconstruction concurred with Representative Adam Schiff’s (D-CA) statement that the CPA and ORHA lacked competent technical field (engineering, construction and procurement) oversight to certify quality and progress.⁸ At a separate Congressional hearing on Iraq Reconstruction, Representative Eliot Engel (D-NY) joined the criticism noting that, “...the Coalition Provisional Authority (CPA) really has been inept in overseeing the reconstruction of Iraq by its hiring of ill-qualified personnel, the use of ill-qualified or corrupt contractors and the lack of proper management and accountability systems to oversee the reconstruction.”⁹ As is clear from hindsight, during times of war the U.S. Government should mobilize its federal engineer agencies within the Department of Defense from the conception and planning phase so they can guide and supervise U.S. funded projects through the reconstruction phase of a conflict. Assembling the right team is paramount.

Lesson Number Two: Unity of Effort is Crucial

Streamlining the reconstruction bureaucracy will build unity of effort in developing the reconstruction program. There are too many national agencies and commands operating in Iraq with U.S. appropriated funds executing infrastructure reconstruction. In many cases the left hand doesn't know what the right hand is doing. The root problem is a lack of command unity over the reconstruction. Multiple agencies are executing their own approach, often in uncoordinated directions, eliminating any possibilities of synergistic effects. In Iraq, there are currently three federal agencies conducting reconstruction operations independently. The United States Agency for International Development (USAID) under the Department of State has its own vision and projects. The Multi-National Security Transition Corps-Iraq (MNSTC-I) has a significant reconstruction budget targeted specifically for the Iraqi security sector and is moving on its own agenda separate from USAID. At the same time, the Gulf Region Division (GRD) of the U.S. Army Corps of Engineers (USACE) is left to execute and manage the remaining Iraq Relief and Reconstruction Fund (IRRF) program as approved by Congress and the current United States Ambassador to Iraq. These three big trains are moving on separate tracks that may or may not reach the same national objectives in Iraq. This lack of unity was evident when on several occasions the three separate agencies listed above, all with their own U.S. appropriated funds, would award a contract to renovate a facility only to find out that it was already being rebuilt by another agency or even worse, the Iraqi contractors would contract with all three agencies for the same work and collect double or triple the fee. The reconstruction effort should be centralized across the U.S. Government with one executive agent, responsible for managing all resources, accountable for progress and empowered by congressional authorization to drive program effectiveness first, then efficiencies as applicable.

Unity of command does not mean that the complex reconstruction of infrastructure should be managed from Washington D.C. Early on there is evidence that the Department Cabinets and Congressional leaders were meddling in the specific projects and attempting to orchestrate the program. In Paul Bremer's book, *My Year in Iraq*, "The struggle to build a future of Hope", the former CPA administrator articulates his frustration, saying, "some bureaucrat in the Pentagon suddenly decided to transfer responsibility for the engineer's activities from the CJTF-7 to the CPA, cutting their funding to zero in the process."¹⁰ This governmental confusion and lack of empowerment was pervasive across our reconstruction effort. Bremer went on to say, "...it was an early warning sign of how Washington would complicate the reconstruction job."¹¹

The United States Army Corps of Engineers (USACE) is the only federal engineering agency committed to managing the overall reconstruction program. Today, USACE's Gulf

Region Division (GRD) has 3 geographic engineer districts (commanded by full colonel engineer), 11 regional area offices, and 41 local resident offices dispersed across Iraq in every major city and co-located with every Brigade/Regiment Combat Team. This is the type of federal organizational structure that we should have brought in from the beginning to lead and manage such a monumental effort. No other agency is linked on the ground with the maneuver force like USACE. USACE has the in-house technical capability and is already organized and ready to serve the nation in a war zone. USACE builds and operates the nation's waterways and dams and has extensive experience in electrical power generation, infrastructure and military construction of runways, highways and buildings. USACE also has regional centers of expertise and research centers for reach-back tele-engineering support. Additionally, USACE is partnering with the other military service engineers to leverage their skills and capacities. The Naval Facilities Engineering Command (NAVFAC) and to a lesser degree the Air Force have joined with USACE and have provided over 40 military personnel (officer and enlisted) as construction managers, contract construction officers, and construction inspectors. This joint synergy has prompted many to suggest some type of future Joint Engineering Command as a future concept. USACE's professional civilian corps of over 35,000 federal employees is currently manning, on a volunteer basis, over 500 engineer and construction positions throughout the eighteen provinces of Iraq. USACE is familiar with working in hostile environments and coordinating with the military chain of command and other Department of Defense organizations. Additionally, military engineers like USACE and NAVFAC are trained to plan side-by-side with combat operations, making the transition to Phase IV more responsive. The lesson for the future is clear, we must make the upfront investment early in the planning phases to mobilize our competent federal engineering agencies so they can and will plan, execute, and adequately supervise a national reconstruction program like Iraq.

Lesson Number Three: National Objectives Must Drive Program Pace and Scope

Rebuilding the infrastructure and all the individual reconstruction projects together are an integral part of the president's strategy to build a democratic, stable and prosperous country.¹² The infrastructure element of national reconstruction arguably is the center of gravity for Phase IV stability and reconstruction. There is a clear relationship between violence and infrastructure. Areas where basic essential services are quickly restored tend to have a more permissive environment than those that aren't. Infrastructure is the "fuel" that drives many of the post conflict tasks such as building governance, re-establishing the economy and enhancing local security. However, as we've seen in Iraq over the past 2 years, security and the

establishment of a permissive environment are key elements that must work in tandem with infrastructure rebuilding.

Potentially in twelve months or less nearly 5,000 large and small projects across Iraq will end as the \$18.4 billion dollar reconstruction program terminates. Many questions linger. Did we plot out the right strategic program? Did we time the projects correctly? Did we try to do too much too fast? Charting out the most effective program pace and scope to best support the stability and transition phase of the war is the focus of this lesson.

Ambassador L. Paul Bremer has written extensively about how he would have done it differently if given the chance to do it over. He concedes it was a mistake to focus on the large scale reconstruction projects at the expense of meeting the Iraqi's day to day needs.¹³ Additionally, "while the urgent need for modern highways, electrical generating plants and the like was clear, we should have anticipated that building them would take a long time."¹⁴ Many people feel that we developed a reconstruction program that missed the target in terms of what the Iraqi people really needed in the short-term and what they could maintain in the long-term. A reconstruction program of this magnitude must be developed based on desired effects across the theater of war. Any reconstruction program must never lose sight of its intended purpose of winning the hearts and minds. The "golden hour" as it is often referred to, demands that the reconstruction main effort be focused on winning the local support by providing basic essential services right after liberation and into the early days of the occupation.

In a country like Iraq, the key to success is leveraging modular standard designs across all the different sectors of reconstruction. This is a fundamental concept that can simplify the execution if inculcated into the national level program. Of course some of the larger projects will require a tailored design. However, most of the local infrastructure we were rebuilding could have been completed faster and would have had a greater impact if early programmers had implemented more standard designs. The health sector was one of the few areas that leveraged this efficient approach. It implemented a national modular standard design for all of the 200 clinics built across Iraq. There were three modular standard designs with different functions based on local requirements. These modular designs were used over and over, simplifying much of the contract solicitation and award for Parsons Corporation, the CPA's prime contractor for this effort. Unfortunately, a majority of these clinics experienced major "set-backs" during construction due to unorthodox and ineffective contract oversight arrangements that proved highly susceptible to corruption and insurgent intimidation. Nevertheless, the concept of standard designs would have been very powerful if it had been applied to all sectors such as water, buildings, communications, transportation and security. For the engineering

community, this is a reoccurring mistake. The power of design simplification and repetition in this part of the world can increase your execution two-fold. For example, the Iraq reconstruction program initiated by the Coalition Provisional Authority proposed hundreds of small compact water treatment plants to provide clean potable water from wells and rivers. Unfortunately, modular standard designs for these small-scale projects were never developed at the national level, causing individual contractors to come up with their own unique design for each separate contract. This duplication of effort caused delays and inherent associated technical design flaws. Police stations would have been another excellent candidate for a simplified standard design and would have accelerated contract construction.

Another major aspect of this lesson is how local involvement by city leaders when designing and scoping projects is crucial to “buy in.” Much of the planning, prioritizing, and scoping of projects occurred by government contractors in Baghdad working for the CPA and OHRA. The dynamic chaotic atmosphere that Jay Garner describes, “We were going to ... bring in contractor teams, as fast as we could do it.”¹⁵ – created an environment that ignored the input of local city leaders, their needs, and their culture. This was most evident in the fortress style police stations that were designed in Baghdad by a U.S. contractor for construction in Fallujah. Culturally, these designs were considered offensive to the locals who perceived that they were really some type of prison or detention center based on the double wall design and imposing guard towers. This lack of design coordination and local involvement made these projects a target for insurgent attacks, which results in security delays and ultimately in significant financial loss to the U.S. Government. This is just one example that demonstrates the complexity of reconstruction. Similar to the phrase, “all politics are local,” in Iraq “all reconstruction is local.” The locals get a vote and it is a lot better practice to get their vote up front during the conception or design phase in order to build ownership and accountability. In recognition of this fact, Ambassador Khalilzad in August of 2006, initiated a program to devolve the project decision making to Iraqis at the local governorate level.¹⁶

The question remains, did we build Iraq what we, the United States led coalition, thought they needed or what the Iraqis felt they needed for themselves? Many of the large infrastructure projects and medical facilities were designed to bring the Iraqis into the 21st century. They were highly technical and potentially beyond the Iraqis capability to operate and maintain at the local level. Western engineers must factor in the realities on the ground and what realistically can be maintained in their part of the world. This is an ongoing concern of the current United States Ambassador, that we have programmed more construction projects than the Iraqis will be able to maintain and operate.

Lesson Number Four: Security Drives Execution

The security conditions in Iraq have created a paradox for the reconstruction mission. Does stability lead reconstruction or does reconstruction create stability? The reality is a blend of both occurring simultaneously. However, when insecurity takes the lead, reconstruction pays a heavy toll. As reported in the April 25, 2006 GAO testimony to Congress on “Rebuilding Iraq,” insurgent attacks caused significant delays, increased security costs, program de-scoping, and termination.¹⁷ Insurgent attacks on the infrastructure are not collateral in nature. Rather, they are extremely sophisticated and targeted against the program in a fully comprehensive and deliberate manner. In the Anbar Province in western Iraq, the attacks against Iraqi construction contractors ranged from email intimidation to mass murder of construction workers on their way home from the job site. This phenomena is not well understood outside Iraq, which contributes to the misinformation about why reconstruction is so difficult in Iraq.



Figure 2. The left photo shows a insurgent convoy attack on a construction truck hauling sewer pipe near Fallujah. The right photo shows IED effect on USG construction inspector SUV with level 6 armor protection near Ramadi.

Insurgents target infrastructure projects to de-legitimize the efforts of the newly elected government and drive out the United States led coalition. Additionally, insurgents want to create chaos in the region by destabilizing the advancements made by the new government of Iraq. In April of 2005, seven masked insurgents ambushed the Iraqi night security watch and detonated a bomb in the nearly complete medical clinic in northeast Ramadi located in Al Anbar Province. This million dollar clinic was part of a Parsons’ nation-wide contract to build 150 modern clinics across Iraq. These big centralized contracts by companies like Parsons have failed to solicit and integrate local Iraqi leadership, support and ownership. The Special Inspector General for Iraq Construction Stuart Bowen released a report that faulted Parson’s lack of oversight and poor management of its Iraq projects.¹⁸



Figure 3. The nearly complete clinic is shown on the left. The destructive aftermath of the insurgent's attack is shown on the right.

Once Parsons' contract was terminated, Government auditors found seven levels of contracting between Parsons and the last sub-contractors actually executing the work on site. These clinics are now being successfully completed by USACE in a decentralized contract model that better involves local Iraqi political and tribal leaders and develops enhanced security solutions through community action. This is another reason to mobilize the Nation's federal military engineers, so we can adjust to the changing security environment and still be effective on the ground.

Each project requires a unique and tailored solution that can only be developed at the grass roots level between the U.S. reconstruction engineers, field contracting staff, the ground maneuver commander, and the local Iraqi government leaders and engineers. In Fallujah, a contract was advertised to repair certain sections of the railroad embankment damaged during the Fallujah Offensive in November 2004. This was a critical project to reopen the rail lines to the western corridor from Baghdad to improve commerce and to facilitate moving the Iraqi Security Forces. Relative to the other reconstruction projects it was small, only about \$400,000. Due to the threatening area where the work was required, a mere three contractors bid on the project. Two days after contract award, the selected contractor received an email at home from the insurgents stating that if he continued with this project, one of his relatives would be killed. The contractor refused to continue and asked to be terminated, playing right into the hands of the insurgents. The key to success on this project was the local empowerment with a decentralized approach to contracting and field oversight. Eventually, a persistent contractor was found who was able to partner with the Iraqi Security Forces and U.S. Marines to counter

any insurgent attacks and who completed the embankment repairs. This scenario represents hundreds of similar contracts that similarly require hundreds of man-hours and coordination meetings at the local level to develop acceptable security arrangements needed to advance a project.

Lesson Number Five: The Importance of Decentralized Execution and Authority

Mr. Stuart W. Bowen told the Senate Foreign Relations Committee of a “reconstruction gap” between expectations and results.¹⁹ “The story of the reconstruction gap is fundamentally about security needs driven by a lethal and persistent insurgency.”²⁰ This lethal insurgency is equally backed by an enemy information operations campaign that shapes the battle for the hearts and minds of the local population. To win this local fight, the coalition must resist all the natural tendencies to centralize and consolidate reconstruction functions back to the capital city. To beat the insurgent effects, the reconstruction program must be decentralized in both planning and execution. The headquarters should provide the centralized guidance and intent with the proper authority delegated to the field offices. Following this model of decentralized operations we were able to best leverage the local leaders’ involvement and incorporate cultural understandings.

The Fallujah Police Station project mentioned earlier, clearly illustrates this point. The coalition had originally planned on building four new police stations in the downtown area to re-establish a security presence inside the city to restore order and control violence. These police stations were under the program management of another major command called the Multi-National Security Transition Corps-Iraq (MNSTC-I) and being centrally contracted by the Joint Contract Command (JCC-I), both headquartered in Baghdad. These police stations were centrally designed, solicited, and awarded from the “Green Zone” for execution in Fallujah by personnel that had never been to Fallujah and worse, had never met with the local city leaders about “socializing” these projects to gain their support and commitment. This centralized execution led to disastrous results. There was no sense of ownership or involvement at the local level by the Iraqi city leaders and equally by the coalition military that ultimately controls that battle space. In this particular case, the insurgents went to the internet site where the project had been advertised by the JCC-I on a web site called the Iraqi Business Center (IBC) and found the project details and project architectural renderings. The insurgents used this information to develop the below leaflet full of lies and misinformation telling the locals that the project was an American facility to detain women and children and this was evidenced by the series of guard towers circled in red.



Figure 4. On the left is the architectural rendering for one of the four police stations programmed for Fallujah. On the right is the actual insurgent leaflet found at the construction site.

This particular leaflet was found in and around the local community that would now potentially harbor resistance to any contractor that attempted to begin this work. This is exactly what occurred, causing major delays and multiple re-solicitations after a series of contractor intimidations. The resultant incidents included sniper fire onto the jobsite, night-time burning of the formwork, and kidnapping of the local project management staff. According to the U.S. State Department, Iraqi contractors in the process of reconstruction, continue to risk kidnappings, murder attacks, bombings, vandalism and threats.²¹ Cliff Mumm, Infrastructure President of Bechtel, noted to *Engineering News Record* Editors in New York in a recent article, describing construction on the Basra Children's Hospital, "... our site security guy was assassinated, and our site manager was chased off with a death threat, ... the site engineer's daughter was kidnapped. Then they took twelve people from our electrical mechanical contractor and systematically executed them, and then one day ... 11 people were marched out from our concrete supplier and stood out in front of a building and executed ... how much blood and how much money is that 96 bed hospital worth?"²² Throughout Iraq, "Security costs represent 16% to 22% of major infrastructure project costs."²³ In early 2006, convoy attacks and casualties almost doubled between October 2005 to January 2006, causing major delays because insurgent threats drove away subcontractors and made project work too hazardous to perform.

For security reasons in the most violent provinces like Al Anbar, many contractors are reluctant to participate in the web-based contract advertisement program for fear that their identity will be revealed, that the projects they would be awarded will be listed, and their company will then be associated with supporting the newly elected government. There is a real concern that participation will make the contractor a target for insurgent attacks. Secrecy and

the concern for hiding any coalition association are demanded from many contractors willing to work in dangerous regions. To protect contractors' identities in Al Anbar, many USACE contract solicitations were sent by individual emails from the local USACE contracting office via BCC (Blind Courtesy Copy) so contractors would not see who else was getting the contract solicitation. Follow-up meetings would take place in the local government center or Civil Military Operation Center (CMOC) to discuss schedule and material issues.

Like Al Anbar and most of Iraq, the only individuals that are authorized to carry weapons are Coalition Forces and the Iraq Security Force (Police and Army). The construction contractors cannot have any firearms on the jobsite to protect the worker or safeguard the material and finished work. These Iraqi contractors are forced to operate between a rock and a hard place. In western Iraq in late 2005, four Iraq engineers traveling by car were stopped by insurgents in the town of Hit, pulled from their car and murdered in the street. These four men were killed in cold blood because they were associated with the Coalition's rebuilding efforts near Al Asad Air Base. Direct targeting of Iraqi Contractors is a part of Al Qaeda's greater terror tactic to slow and impede reconstruction progress.

This insecurity also creates another unique challenge for the Coalition and the Iraqi Government.²⁴ In an operation where winning hearts and minds is a key priority, it is very difficult to publicize many of the great projects for fear of drawing the insurgents' attention. "We're trying to be very sensitive about putting Iraqis in harm's way. We (the Coalition) do not announce projects that are being worked or completed because insurgents would target those projects and the workers we are employing."²⁵ This creates another dichotomy. On the one hand, the coalition is trying to get the word out so that the local Iraqis will know that their local government is working hard to govern and provide basic essential services. On the other hand, we are not publicizing all of the great work that is going on to try to safeguard it from the insurgents. We actually try to stay out of the limelight and media on many of these projects as best as we can. The level of violence in Iraq, particularly in Baghdad and Al Anbar Provinces, where the Sunni insurgency is strongest, is incomprehensible to most Americans as described above. Insurgent attacks across Iraq in 2005 and 2006 averaged between 75-100 attacks per day, with 15-20 of them being directly or indirectly targeted at infrastructure.²⁶ This dangerous atmosphere has caused a rapid inflationary environment and cost escalation, thereby inflicting another form of insurgency on the reconstruction efforts. This effect is typical in a war zone and the most effective method to control prices is a decentralized reconstruction operation that can best navigate the local dynamics and exploit opportunities that would not otherwise be seen in a centralized system.

Lesson Number Six: Outsourcing is No Panacea

The initial outsourcing strategy for reconstruction attempted to shift strategic risk to large U.S. engineering firms without fully considering the uncertainties of war. If strategic risk can be defined as the imbalance between ends, ways and means,²⁷ we clearly failed to anticipate the mismatch between the ways and means to reconstruct post war Iraq. The biggest difference between post-WWII reconstruction and Iraq is our current failure to anticipate and adapt to the changing security environment. The Pentagon's initial reconstruction strategy was to outsource the rebuilding of Iraq to large, mostly American multinational firms using cost-plus contracts, which are basically open-ended contracts with minimal on-the-ground oversight. These multi-million dollar cost-plus contracts, awarded to firms like Bechtel, Fluor, Amec, and Parsons and were intended to accelerate the major reconstruction and "jump-start" the economy. "Iraq showed that these corporations are not designed to operate in the middle of a war zone."²⁸ These cost-plus contracts are dangerously high risk to the government because there is little or no financial incentive to minimize costs, since the contractor will always be fully reimbursed (plus profit) upon contract completion.

As the Special Inspector General for Iraq Reconstruction, Mr. Bowen found that "administrative costs exceeded direct project expenses on five design build jobs" and that "overhead costs on projects in Iraq range from 11% to 55% of project budgets."²⁹ These figures of extended overhead costs demonstrate the inefficiency of using large non-combatant management firms that can't operate in a non-permissive environment. Additionally, nearly all of the original contracts were design build and cost-plus, meaning that the contractor had the responsibility for the project from concept through the final construction including hiring subcontractors and coordinating all deliveries of construction material and facility equipment. For the government, these contracts appear on the front end to be an easy way to outsource a reconstruction effort with many unknowns, providing the ultimate flexibility for Indefinite Delivery, Indefinite Quantity (IDIQ) type contracts.

Once in place, these big design-build cost-plus contracts were used in lieu of fixed price contracts because the Pentagon preferred to shift responsibility for program and project management and assessing local Iraqi construction capability to the private sector rather than commit a substantial, robust organization of Federal engineers, like the U.S. Army Corps of Engineers. In theory, this privatization model could have succeeded. However, the decisions to rely on the private sector "to achieve U.S. policy goals also guaranteed a clash of interest that undermined the rebuilding."³⁰ The insurgency doomed these massive binding arrangements with big businesses by forcing them to hire substantial private security forces that drained up to

a quarter of the rebuilding budget. Engineers spent weeks trapped in their “Green Zone” quarters, costing \$4 million a day. Even if these contractors suffered these or other cost overruns, they would still receive full compensation plus their expected profit. *Engineer News Record* published that Parsons Iraq “had contract costs through May 2006 of \$312.6 million with administrative costs of \$133.9 million, or 43%.”³¹ The Coalition Provisional Authority (CPA) and the Office Reconstruction and Humanitarian Assistance (OHRA) lacked the contract and technical engineering oversight to reign in such excesses. This handicapped the means portion of the overall reconstruction strategy. Inadequate government construction oversight resulted in blurred authority and accountability and led to huge overruns producing disastrous results. Layers of government contractors overseeing other contractors have raised conflict of interest charges, led to increased legal scrutiny, and produced a decline in public confidence for the entire reconstruction effort. For example, Parsons had a huge \$200 million cost-plus design build type contract to contract over 150 primary health care clinics countrywide. At the time of Parsons contract termination in late 2005, only 6 of 150 clinics had been completed, although 75% of the funding had been spent.³² The Special Inspector General for Iraq Reconstruction’s (SIGR) inspection revealed systematic inefficiencies inherent to these procurement strategies. Sometimes there were as many as nine tiers of contractors between Parsons’ ordering the work done and the worker who actually laid the bricks.

Our federal procurement policy tries to strike a balance between the flexibility to allow agencies to respond quickly to changing circumstances, and the application of complex rules intended to minimize fraud, waste and abuse.³³ However, the lesson so far is that what we have isn’t good enough. You really can’t fault the big U.S. firms who entered into these contracts. They are not charitable organizations. They are businesses chartered by their shareholders to make a profit. They’re supposed to make money. The Federal entities that are supposed to protect the government from undue risk and harm were not called up. Furthermore, it was apparent that by bringing in large U.S. companies, we failed to entice the large Iraqi firms to return to participate in the re-building. We effectively disenfranchised the very power base that was needed to create a solid foundation for the economy to grow firm. Even Ambassador Brenner has come out and said it was a mistake to focus on the large cost-plus contracts to refurbish the country’s large-scale infrastructure. Bremer wished he had insisted on an exemption from the peacetime contracting rules to better expedite direct contracting with Iraqi firms under firm fixed-price arrangements to meet Iraqi’s day-to-day needs. Bremer remarked, “This lesson was brought home to me in a dramatic fashion a few weeks after I had arrived. We had learned that six major hospitals in Baghdad urgently needed

new generators to run their operating rooms and air-conditioning plants. If we used American money, he told me, it would mean waiting for four to six months for the generators. We used Iraqi funds and got the equipment in eight days.”³⁴ Congress must create war-time exemptions to restrict peace-time acquisition rules if it is to expect responsive progress in a theater of war.

Lesson Number Seven: Maneuver Commanders Must Embrace Reconstruction Operations

Local battle-space maneuver commander involvement in reconstruction operations is not just a secondary element. It is vital to the entire reconstruction program. Local emphasis also includes the ownership and participation in infrastructure rebuilding by all levels of the command; from the platoon, through company and battalion and above. Their participation is crucial in regards to influencing local Iraqi government leaders, battle-space access, and overall security arrangements. Commanders who take a personal interest in this critical reconstruction activity tend to better leverage the positive effects. On the other hand, commanders that distance themselves from this essential Phase IV task, ultimately miss opportunities to win the peace by non-kinetic means. The reconstruction engineer team needs the maneuver commander's support and involvement to prioritize certain mission requirements against all of the other demanding requirements for his unit(s). The rebuilding of infrastructure is too important a mission to delegate carte blanche. Much of the centralized project planning from Baghdad has wrongfully alienated local commanders to believe these projects somehow belong to the central command in Baghdad, either MNF-I or USACE. This syndrome must be eradicated. These projects are “coalition projects” that rotating commanders must embrace and advance during their tour of duty if major national level infrastructure rebuilding is to be successful.

In mid 2005, the U.S. Administration shifted its reconstruction strategy to performing more construction in smaller packages directly with Iraqi contractors. These firm fixed-price construction contracts were seen as a cost cutting move to yield a more visible demonstration of progress, by improving Iraqi capacity building and local employment opportunities. This change in how to rebuild Iraq was made to instill a sense of local government ownership and involvement that wasn't seen under the big cost-plus contracts and to encourage greater involvement by local maneuver commanders to facilitate security arrangements. One major problem with Parsons' cost-plus design build contract was that its American project management rarely ventured out to the different field locations to perform quality assurance oversight or coordinate project details with local city/village engineers. Parsons attempted to manage project quality and progress from a company web site based on third party site visits.

Direct contracting greatly enhances local coordination with Iraqi engineers and ground maneuver forces and provides incentives to prevent insurgent activities.

Lesson Number Eight: Retooling a Contracting Bureaucracy for War is Overdue

One of the greatest challenges for the Federal engineers in Iraq today is navigating the bureaucratic rules associated with our Government's Federal Acquisition Regulations. Our Government's acquisition laws are not suited for a wartime theater, where effectiveness must take a front seat to efficiency. This complex system of acquisition rules was intended to protect the government, but has instead tied the "hands of progress" and gone against common sense. Our United States Congress has known for years that these federal regulations don't work for the military during times of crisis; therefore, they bear responsibility in not providing the effective wartime tools for this reconstruction mission. What makes sense in an essentially well-developed and peaceful democracy doesn't work in a war torn country dealing with a violent insurgency. U.S. Marine Corps Colonel Barker, who coordinated reconstruction projects in the insurgent stronghold of Ramadi stated, "The federal rules that govern how funds can be spent in Iraq are slowing reconstruction. We are trying to spend money in a wartime scenario. Unfortunately, we have to play by the existing peacetime rules and it can be a nightmare."³⁵ The original framework for rebuilding Iraq is a clear lesson in strategic mismanagement and inadequate planning, especially with its poor understanding of the strategic environment.

The Federal contracting bureaucracy of clauses and endless legal reviews continues to hamstring the reconstruction efforts in Iraq. The Special Inspector General for Iraq Reconstruction (SIGR) has recommended to Congress several times to create a contingency Federal Acquisition Regulation (FAR) specifically for wartime Contract Construction. Many of the U.S. peacetime regulations on fair and open competition counter the local tribal and ethnic factors in Iraq. Our peacetime FAR also fails to incorporate host-nation capacity building and local government involvement in contractor selections that build partnership and cooperation. The Defense Base Act (DBA) worker's compensation program specified by FAR 28.305 and FAR clause 52.228-3 is one example that illustrates the problem. The U.S. Government requires that United States and foreign national employees hired by contractors and subcontractors to work on international government contracts be protected by Defense Base Act (DBA) coverage, regardless of their assignment and/or location. Agencies can apply for and receive waivers for certain foreign nationals from the Department of Labor. When waivers are granted, they are subject to the proviso that the contractor provide a worker compensation program with benefits equal to the local laws. However, since no local worker compensation

laws exist in Iraq, no waivers have been granted for Iraq and locals are subject to DBA provisions. Under this clause, the U.S. Army Corps of Engineers (USACE) had entered into a pilot single insurer program for DBA that requires the prime contractor to purchase insurance from a particular U.S. company for all workers, including all subcontractors, involved on the contract. The program requires payment in advance from the foreign contractor before the insurance company will issue the required worker's compensation insurance. The DBA clause makes sense for government work in the United States but strikes most reasonable people as ridiculous to enforce in Iraq. Yet, we must enforce these U.S. rules and norms because Congress has allowed no other option. The contingency contracting revisions need to be adaptive to the local environment, providing sufficient latitude to ensure that effectiveness prevails over bureaucratic idiosyncrasies and efficiencies.

In *The Future of the Army Profession*, Don Snider warns us about the perils of letting the Army as profession become a bureaucracy. We must ensure military effectiveness (i.e. of nation-building and reconstruction) remains the dominant goal, surpassing efficiency. The Army, and DoD for that matter, are most certainly not businesses. "The Army was established by the founding fathers to accomplish its operational missions, not to turn a profit."³⁶ It is apparent that the Army, pressured by Congress, has moved toward business and organizational concepts, efficiency goals of Lean Six Sigma, outsourcing, and civilianizing and away from the traditional panoply of military decision tools.³⁷

The recommendation for unity of command should not be confused with an advocacy of universal one-size fits all contracting. Contract authority should reside as close to the construction as possible. Thus the unified Joint Contracting Command-Iraq (JCCI) is another lesson learned in Iraq. Many senior leaders, both civilian and military, assume that logistics and construction type contract procurement actions are similar under the Federal Acquisition Regulation; therefore, efficiencies can be gained if post-conflict contracting activities are centralized in Baghdad. However, construction contracting is inherently more complex than commodity procurement and is a career field in and of itself. Decentralized construction contracting is significantly more effective than a generic "clearing house" approach. The Joint Contracting Command in Iraq had authority over the Iraq Relief and Reconstruction Funds (IRRF), yet very few of its Contracting Officers had construction experience. This contract function should have been transferred over to USACE, where both the experience and capacity resides out in the field locations where the construction takes place. Additionally, JCCI hesitated to empower construction field agents due to a turf battle for agency justification and manpower. Iraq reconstruction has taught us many organizational lessons. It is imperative that

reconstruction be managed under a single executive agency and that lead agency should have unity of command over all construction contracting in a particular battle-space. We do this globally between USACE and NAVFAC, yet inside Iraq we have numerous federal agencies all rebuilding on separate agendas with separate contract agencies.

Another challenge to the Iraq reconstruction mission is related to the current inflationary project environment. Our disjointed approach to contracting has created an artificial escalation of unit prices due to inter-agency competition for limited construction capacity. In one city, all four major reconstruction agencies could all be soliciting contracts without a U.S. Government unity of command or unity of purpose/effort. Once again the standard design police station in Fallujah is a case and point. In 2004, the initial cost per police station was \$500,000 under a contract by the U.S. Army Corps of Engineers that was awarded directly to an Iraqi contractor. After several contract terminations due to insurgent attacks and intimidation, the unit prices went up over \$1 million to \$2 million per police station. The unit cost increase was partially due to security but could also have been due to other agencies counter approach to construction contracting. The Multi-National Security Transition Corps-Iraq (MNSTC-I) decided to use a different contracting agency from USACE to build a police station inside a coalition protected Civil Military Operation Center (CMOC) compound in downtown Fallujah using Filipino guards and busing in Iraqi workers at night from Baghdad. The final costs for this one police station reached \$5.6 million via a contract awarded by a separate contracting agency, the Air Force Center for Environmental Excellence (AFCEE). This escalation of cost was predominately caused by a lack of unity of command and effort across the reconstruction program. The low overhead model advertised by AFCEE appealed to the funding agency of MNSTC-I because MNSTC-I thought it was saving money. However, the lack of engineering and contractual oversight of the AFCEE contracted police station in Fallujah resulted in huge cost overruns and poor quality workmanship. AFCEE had no capability for construction oversight since they only had three or four AFCEE personnel in Iraq at any given time. Yet they were a contract agent of choice due to their low construction management costs. The inconsistency in field oversight, poor quality control/assurance procedures, and the absence of a lead executive agency are major discrepancies in the contingency chapter of the FAR.

Conclusion

Will the Iraqi peace be a bad one, containing the germs of another war as in the B.H. Liddell Hart quote or will U.S. persistence prevail? How can we ensure a successful reconstruction in the future? Countries like Iraq show us that there are no easy victories and no

simple answers. Solutions are complex, multifaceted and ever evolving. Only history will reveal the answer to the first question, but there are lessons from Iraq that can be employed to assist us in winning the peace in future wars. We have painfully learned that it is much cheaper in the long run to mobilize our own federal engineering and management organization than to rely on outsourcing to private industry to the job of executing a multi-billion dollar reconstruction program during a violent insurgency. We should always plan for the worst and hope for the best. Equally important is mobilizing the “right” team to orchestrate such a monumental effort.

Phase IV of the war is still war. Outsourcing reconstruction program oversight to temporary contractor personnel has proven the adage that putting efficiency before effectiveness is a bad decision. Choosing ad-hoc staffs at both Department of State and Department of Defense over deploying competent federal military agencies from the conception was a mistake. Combatant military engineers should lead infrastructure reconstruction from cradle to grave to ensure unity of command and effort across the entire national strategic purpose. With a solid plan and team in place, the peacetime construction contracting rules must be overhauled to better arm the coalition's efforts during Phase IV. Many of the eight lessons discussed in this paper have since been employed to some degree with varying levels of success. Unity of command must prevail over all temptations to out-source the reconstruction program to large private corporations. Streamlining the reconstruction bureaucracy must be the first step in winning the effective versus efficiency struggle.

Our Nation must never again “half-step” our way into such an important phase of winning the peace as it did with “the reconstruction of the infrastructure.” Winning hearts and minds is a race against time. Unfortunately, the United States was slow getting out the gates on the “reconstruction race.” Like any on-going race, the United States can still clinch a victory, but it will take great persistence and adaptability.

Endnotes

¹ George W. Bush, *The National Security Strategy of the United States of America*, (Washington D.C.: The White House, March 2006), p. 16.

² Nadia Schadlow, *War and the Art of Governance*, (Parameters, U.S. Army War College, Autumn 2003), p. 85.

³ Ibid., p. 86.

⁴ Hans Binnendijk and Stuart E. Johnson, *Transforming for Stabilization and Reconstruction Operations*, (Center for Technology and National Security Policy, National Defense University, Washington, D.C., 2004), p. 3.

⁵ Schadlow, p. 91.

⁶ Hans Binnendijk and Stuart E. Johnson, *Transforming for Stabilization and Reconstruction Operations*, (Center for Technology and National Security Policy, National Defense University, Washington, D.C., 2004), p. 10.

⁷ Deborah Tate, "US Official Urges Contracting Reform Following Mistakes in Iraq," *Voice of American Article*, 2 August 2006 [journal online]; available from <http://www.globalsecurity.org/wmd/library/news/iraq/2006/08/iraq-060802-voa03.htm>; Internet accessed 13 November 2006, p. 1.

⁸ U.S. Congress, House, International Relations Committee, *US Representative Henry Hyde (R-IL) holds a Hearing on Iraq Reconstruction*, 8 June 2006: p. 25 [database online]; available from Lexis-Nexis; accessed 21 August 2006.

⁹ Ibid., p. 32.

¹⁰ L. Paul Bremer III, *My Year in Iraq, The Struggle to Build a Future of Hope* (Simon and Schuster Rockefeller Center, New York, New York), p. 110.

¹¹ Ibid.

¹² U.S. Congress, House, International Relations Committee, p. 3.

¹³ Katherine McIntire Peters, "Fits and Starts," *Government Executive Magazine*, February 1, 2006 [journal online]; available from http://www.govexec.com/story_page.cfm?articleid=33321&printerfriendlyVers=1&; Internet accessed 5 September 2006.

¹⁴ Ibid.

¹⁵ Shane Harris, "Outsourcing Iraq," *Government Executive Magazine*, July 1, 2006 [journal online]; available from http://www.govexec.com/story_page.cfm?articleid=28918&printerfriendlyVers=1&; Internet accessed 17 November 2006.

¹⁶ U.S. Congress, House, International Relations Committee, p. 2.

¹⁷ U.S. General Accounting Office, *Rebuilding Iraq: Governance, Security, Reconstruction, and Financing Challenges* (Washington D.C.: U.S. General Accounting Office, 25 April 2006), p.18.

¹⁸ Pam Hunter, "Lawmakers Grill Participants Over Building Programs Flaws", *Engineer News Record Magazine*, 9 October 2006: [database online]; available from ProQuest; accessed 27 October 2006.

¹⁹ Bruce Buckley, "Infrastructure Work Starved by Loss of Funds to Security," *Engineering News Record*, February 20, 2006:1 [database online]; available from ProQuest; accessed 21 August 2006.

²⁰ Ibid.

²¹ Ibid.

²² Tom Sawyer and Andrew Wright, "Bechtel Speaks About Work in a War Zone", *Engineering News Record Magazine*, 30 October 2006, p. 11.

²³ Bruce Buckley, "Security Woes Slow Rebuilding Iraqi Infrastructure, IG Says," *Engineering News Record*, 28 February 2006 [journal online]; available from http://enr.ecnext.com/comsite5/bin/enr_description_docview_save.pl?page=enr_document&item.; Internet accessed 7 November 2006.

²⁴ Peters, p. 14.

²⁵ Ibid.

²⁶ Tom Sawyer and Andrew Wright, "Bechtel Speaks About Work in a War Zone", *Engineering News Record Magazine*, 30 October 2006, p. 12.

²⁷ James F. Holcomb, "Managing Strategic Risk", *U.S. Army War College Guide to National Security Policy and Strategy 2nd Edition*, (June 2006, Edited by J. Boone Bartholomees, Jr.) p. 143.

²⁸ T. Christian Miller, "Losing the battle to rebuild Iraq", *Los Angeles Times*, 10 August 2006, p. B.14.

²⁹ Powers, p. 13.

³⁰ Miller, p. B.13.

³¹ Mary Buckner Powers, "Congress Moves to Reinstate Iraq Contracting Overseer", *Engineer News Record Magazine*, The McGraw-Hill Company, 13 November 2006, p. 13.

³² U.S. Congress, House, International Relations Committee, *US Representative Henry Hyde (R-IL) holds a Hearing on Iraq Reconstruction*, 8 June 2006: 4 [database online]; available from Lexis-Nexis; accessed 21 August 2006.

³³ Jenny Mandel, "Iraq reconstruction failures tied to contracting breakdowns," *Government Executive Magazine*, 13 October 2006 [journal online]; available from http://www.govexec.com/story_page.cfm?articleid=35268&printerfriendlyVers=1&; Internet accessed 7 November 2006.

³⁴ Peters, p. 15.

³⁵ Greg Jaffe, "Rules Slow Rebuilding in Iraq; Spending Deadlines, Regulations to Fight, Fraud Creates Barriers", *Wall Street Journal*, 5 October 2004, [newspaper on-line]; available from <http://proquest.umi.com/pqdweb?did=707098051&sid> ; Internet; accessed 27 October 2006.

³⁶ Don M. Snider and Lloyd J. Matthews, *The Future of the Army Profession, 2nd Edition* (McGraw Hill Custom Publishing, Boston, Mass., 2005), p. 13.

³⁷ Ibid, p. 14.

